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TRAIL & LANDSCAPE

A Publication Concerned With Natural History and Conservation

The Ottawa Field-Naturalists' Club

TRAIL & LANDSCAPE

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The Ottawa Field-Naturalists' Club

— Founded 1879 —

President
E. Franklin Pope

Objectives of the Club: To promote the appreciation, preservation and conservation of Canada's natural heritage; to encourage investigation and publish the results of research in all fields of natural history and to diffuse the information on these fields as widely as possible; to support and co-operate with organizations engaged in preserving, maintaining or restoring environments of high quality for living things.

Club Publications: THE CANADIAN FIELD-NATURALIST, a quarterly devoted to reporting research in all fields of natural history relevant to Canada, and TRAIL & LANDSCAPE, a quarterly providing articles on the natural history of the Ottawa Valley and on club activities.

Field Trips, Lectures and other natural history activities are arranged for local members; see "Coming Events" in this issue.

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Welcome, New Members

Ottawa Area

Muriel M. & Jacques L.A. Bousquet
Lester Bradley & Family
S. Helen Brooks
Neil Christopher
Irene V.F. Elce
Karen Floyd & Chris Carriere
Doreen P. Gooddy & Family
Jennifer A. Holmes
Lorna Knight
Gordon & Maxine McLean
David Miller
Dan Pearlman
Laurie and David Pelly
Karen Richter (Welcome back!)
Elizabeth A. Ruda
Anita Schwartzberg
J.H.C. Scrimgeour & Family
Donna J. Slaney
Andrew J. Sokolich & Family
Beth P. Thompson & Family
Mark W. Tooker & Family
Martha L. Wurtele & Family

Other Areas

Andrea Hooker
608 Upper Concession Rd.
Ormstown, P.Q.
J0S 1K0

Bruce E. Matson
29 Crawford Street
Brockville, Ont.
K6V 1S2

Doreen Watler, Chairman
Membership Commitee
November 1992

DEADLINE: Material intended for the April-June 1993 issue must be in the editor's hands before February 1, 1993. Mail your manuscripts to:

Bill Gummer
Editor, *Trail & Landscape*
2230 Lawn Avenue
Ottawa, Ontario, K2B 7B2
(613) 596-1148

O.F.N.C. Slide Collection

Betty Campbell

The Club has been the recipient of several significant donations of nature slides in 1992. George McGee, who is well remembered by many club members for his untiring efforts in providing educational courses on bird recognition both for the general public and the schools, left an extensive collection of bird slides upon his death. These have been generously given to the club by Mrs. McGee. The slides will be listed in our library as "The George McGee Collection" and include not only additions to our exisisting collection of slides from the Cornell Ornithology Laboratory, but also an earlier collection of 59 slides from the Bird Photographers Inc., plus many fine photographs by George himself.

A second posthumous donation was received from Peter Walker, who was an active member in Club birding groups. These slides include many birds on the Ottawa list that were photographed enjoying a Florida winter break, as were the Walkers at the time.

A donation from Diane Lepage, one of our current members, has added some outstanding photographs of insects, butterflies, flowers and birds to the collection.

These slides join those already in our slide collection from club photographers A. Lymburner, A.L. Thompson, Frances Goodspeed, Betty Campbell, Betty Marwood, Peter Hall, Tony Beck, Bill Gummer, Connie Clark, Ray Knowles, Bruce Di Labio, and Deirdre Furlong.

The Club's slide collection now numbers close to 800 slides. A catalogue of the collection has been prepared and it is hoped that this resource material will help club members in preparing talks and lectures. Call Betty Campbell, Educational and Publicity Committee, at 523-6632 for a copy of the catalogue or for information on borrowing slides.¤

Bequest from The Estate of Louise De Kiriline Lawrence

Frank Pope

Louise De Kiriline Lawrence, who was an honorary member of The Ottawa Field-Naturalists' Club, died on April 27, 1992. The Club has been named as a beneficiary in her will. When the estate is settled, the Club expects to receive about $4,000.

Mrs. Lawrence was an inspiration to many of us through her writing. Her parting gift was very thoughtful and most appreciated.¤

Rules of Access to the Shirleys Bay Causeway

Frank Pope

A change in the flag signals at Shirleys Bay became effective on October 1st, 1992. * From that date, entry to the causeway is restricted only when the red flag is flying at half mast. Printed below is an updated version of my article published in *Trail & Landscape 25(2): 65(1991).*

The Ottawa Field-Naturalists' Club has a contract with the Department of National Defence that gives us access to the Connaught Range and Primary Training Centre (CRPTC) at Shirleys Bay for the purpose of observing birds. Access is contingent upon the following rules:

1. Birding activity is restricted to Chartrand Island, Haycock Island, the causeway connecting Haycock Island and the mainland, the shoreline east of the causeway, and the area southward to the road leading to the CRPTC main gate.
2. Vehicles are to be parked in the area north of the Connaught Range Road, adjacent to the beach where boats are launched. Vehicles must not be parked on the road that runs west from this area to the CRPTC main gate.
3. Access to the property is forbidden when firing is taking place on the Pistol Range. This activity takes place throughout the year.

For your own safety and to assure continued access to this excellent birding spot, we recommend the following procedures:

(a) Prior to leaving home for the causeway it is advisable to telephone the Connaught Training Coordinator at 991-5740 to find out if the range is in use or scheduled. If he cannot be contacted, telephone the Range Warden at 991-5741.

(b) Prior to entering the causeway check the warning flags at the CRPTC main gate:

(i) No flag – no activity taking place – access permitted.

(ii) Red flag at the top of the pole – rifle ranges in use, no threat to causeway – access permitted.

(iii) Red flag at half mast – pistol range in use – NO ENTRY.

* The new signals were announced at the October monthly meeting, and on the Bird Status Line.

(c) If there is confusion over the flag being displayed, enquire at the Range Warden's Office, Building 15, or the Training Coordinator's Office, Building 34.

SHOULD YOU HEAR FIRING FROM THE PISTOL RANGE WHEN YOU ARE ON THE PROPERTY, LEAVE AT ONCE.

In case of emergency during the working day, a telephone is located in Building 34 (upstairs). Pay telephones are located behind Building 47.¤

Knotweeds In The Ottawa District

Douglas Savile

Jack Holiday's note on knotweed (*T & L 26(3), 1992*) has suggested to me that it is worthwhile pointing out that the plant so common in gardens and roadsides, and usually considered as a single species, *Polygonum aviculare,* is actually two different species. These are *P. aviculare L. s. str.* and *P. arenastrum* Jord. ex Bor.

In *P. aviculare* the fruits are 2.5-3.5 mm long, concave on 3 faces; and perianth cleft nearly to base.

In *P. arenastrum* fruits are 1.5-2.8 mm long, with generally 2 convex faces and 1 concave; and perianth cleft half its length.

Mertens and Raven (Madroño 18: 85-92, 1965) also give differences in leaf characters; but these are unreliable and confused early attempts, e.g. by Dr. C. Frankton and me, in trying to sort out local material. Actually, both species are widespread in Canada, but at Ottawa *P. arenastrum* seems to predominate.¤

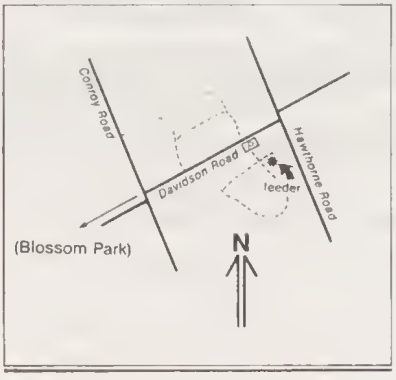
OFNC Bird Feeders 1992 Update

Jack Romanow

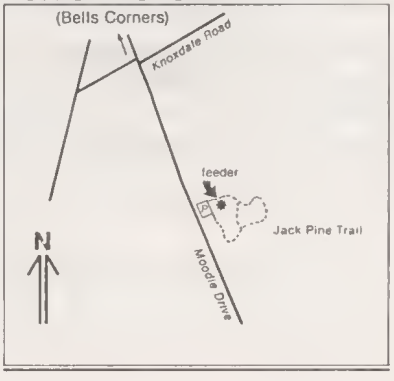
Once again this winter, The Ottawa Field-Naturalists' Club is providing casual and not so casual bird-watchers of the area with great opportunities by operating birdfeeding stations. Some stations involve the help and cooperation of the National Capital Commission (NCC) and Le Club des Ornithologues de l'Outaouais, and others are tended with the help of some pretty dedicated volunteers from the OFNC. Here are the 5 locations you can enjoy this season:

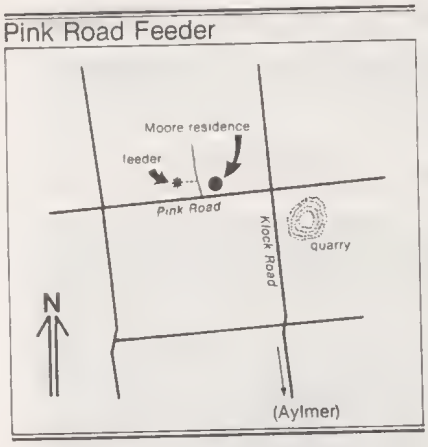
1. The Davidson Road Feeder (between Conroy & Hawthorne) is near Blossom Park. This one has been tended by Bill Miller and friends for a number of years now.
2. The Jack Pine Trail Feeder on Moody Drive south of Knoxdale has been cared for by Roy Millen for over 12 years.
3. The Pink Road Feeders near Aylmer are truly attractive. There are nearly 50 various types of feeders surrounded by a footpath on this one acre wooded lot. This site is tended by Le Club des Ornithologues de L'Outaouais with seed provided by the OFNC.
4. The Mer Bleue Feeder is on the north side of Dolman Ridge Road east of Anderson Road in Gloucester. The NCC pays a part of the cost for this one which is looked after by Lee Cairnie.
5. The Fletcher Wildlife Garden Feeder was new in 1992. The feeder had previously been located near the National Research Council off Bathgate Drive before coming to this location, south of the Dominion Arboretum between the Rideau Canal and Prince of Wales Drive. Volunteers are being sought to help in maintaining this new feeder location.

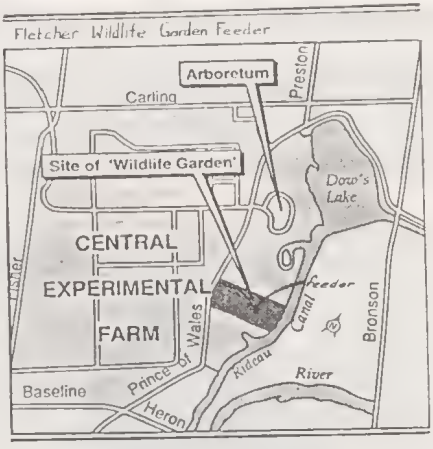
Davidson Road Feeder



Moodie Drive Feeder



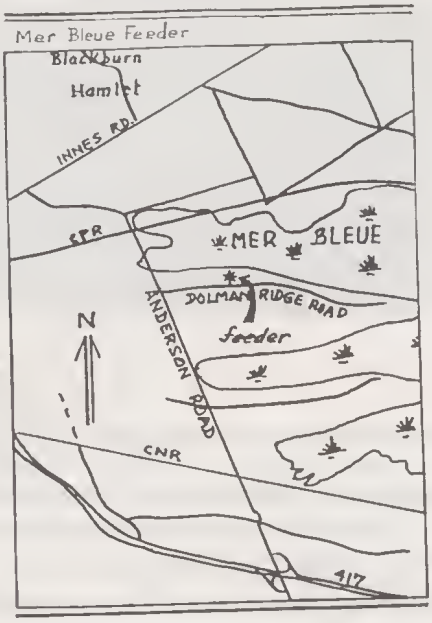




The fund-raisers and their sponsors can hardly be overloooked. Most of the OFNC seed and feed money is raised through the Annual OFNC Seedathon. Tony Beck and Gordon Pringle managed to raise over $500. in this year's event.

The Birdfeeder program is one of the activities of the Birds Committee of the OFNC. Its success is the responsibility of the Bird Feeder Sub-Committee which is chaired by Daniel Perrier. It is he and his team of volunteers and their helpers who can be thanked for maintaining these great winter bird-watching locations around Ottawa.

For more information on OFNC feeders, or, to volunteer to help tend the birdfeeders, you can contact Daniel Perrier at 746-6716.¤



Fletcher Wildlife Garden Update

Jeff Harrison

Tree planting in the new woodlot, Sept. 1992.
Photo by E. Stevenson.

Since our last report considerable activity has been taking place in the garden. At the new woodlot near Prince of Wales Drive almost 400 trees have now been planted.Elise Stevenson, our garden co-ordinator, and Robina Bennett, our volunteer co-ordinator, have organized excursions to private landholdings and our nursery to dig up species we need.

Gillian Boyd and her team have spent many hours this summer developing the butterfly meadow plot. We are planning on expanding the plot next year. Consumers Gas has donated $1,000. which will be used to buy plant material for the Hedgerow habitat. Employees plan to plant the trees next spring.

The model Backyard Garden is now taking shape thanks to the tireless support of Eileen Chivers of Landscape Ontario. The plant beds, a two-tier pond, a rockery and two patios have been installed with the assistance of students from Algonquin College. An irrigation system has also been installed. Manderly Sod is donating a special turf of coarse grasses that will reduce watering and be more resistant to weeds!

We are selling certificates to raise funds for the model garden. For $5.00, donators receive a Certificate making them a "patron in the development of one square foot of the Backyard Garden". We raised $1,000. at our booth at the Ottawa Home Show, and are now staffing a booth at the Chrysanthemum Show at the Farm. Early indications are we may raise an additional $4,500! Needless to say our fund-raising is going extremely well.

The Certificate Programme is gaining momentum. You can help by becoming a patron, send your cheque for $5.00 (multiples will not be refused!) to the Fletcher Wildlife Garden c/o the Club address.

We have now formally submitted a letter to Agriculture Canada to take over the building on the property, that we hope to turn into an Interpretation Centre. The Graphic Design Department of Algonquin College has been contracted to develop logos for the garden. Students have submitted their designs and we expect to select the winning logo before the end of the year.

The Fletcher Wildlife Garden Management Committee has been busy developing a Strategic Plan which will guide the Garden's future development. We are setting priorities on what work will be undertaken and how we will function.

Our Management Committee is likely to be made up as follows:

- Chair, Jeff Harrison, OFNC,
- Vice-Chair, Friends of the Farm Planning Committee,
- Secretary-Treasurer, Ken Young, OFNC
- Chairs of four Sub-Committees

At the moment we anticipate four Sub-Committees:

- Education, Peter Hall, OFNC
- Financial Management, Ken Young,
- Operating, Michael Murphy, OFNC
- Promotion and Fund-Raising, to be determined

Elise Stevenson, our Co-ordinator, will work with the Management Committee and Sub-Committees and oversee the day-to-day work in the garden.

There is a huge amount of work to be done if we are to succeed. We are looking for keen people who want to get involved on our Sub-committees to help us make the garden a reality. Currently we need a Chair for the Promotion and Fund-raising Committee and additional members for every committee.

We are also developing a list of activities that volunteers can participate in that will start in earnest with the new planting season in April. We will keep you posted through *Trail & Landscape*.

If you are interested in getting involved on one of our committees, as a volunteer, why not give Elise a call at 230-3276 today! ¤

A Plea From The Awards Committee

Enid Frankton

In May 1981 four awards were added to the existing Honorary Membership Award.

The number of nominations received each year is smaller than we would like to see, considering the number of members in our Club. We would really be pleased to have more members participating in this effort: it would help ensure that we are not missing deserving candidates in the final selection of award winners.

PLEASE HELP US IN THIS MATTER.

Do you know someone, and not necessarily a Club member, who over the years has made an outstanding contribution to Canadian natural history?

Nominate this person for an **Honorary Membership.**

Do you know a member who has contributed a great deal to the Club in the current year?

Nominate this person for the **Member of the Year Award.**

Do you know a member of the Club who has contributed significantly to the smooth running of the Club over several years?

Nominate this person for the **George McGee Service Award.**

Do you know someone who has made an outstanding contribution in the cause of conservation?

Nominate this person for one of the two **Conservation Awards**, member and non-member.

Do you know a member of the Club who has made a recent, outstanding contribution to our knowledge, understanding and appreciation of the natural history of the Ottawa Valley?

Nominate this person for the **Anne Hanes Natural History Award.**

Nominations are made towards the end of each year, and are normally submitted by mid-December. Nomination forms will be available at appropriate monthy meetings.

Send your nominations and supporting information to:
OFNC Awards C'tee, Box 3264 Postal Stn. C, Ottawa, Ont. K1Y 4J5 ¤

Life Cycles: The Kingfisher at Turtle Pond

Isabelle Nicol

- *Marc Guertin*

The sky took on a deep copper glow as the late afternoon sun edged slowly toward the horizon, its light glinting off the waters of a creek that had its origins in a small lake. Now, in the lengthening shadows of overhanging willow and aspen, it took on a more sombre aspect as it wound its languid way toward a series of interconnecting ponds.

A family of kingfishers lived on the largest of the ponds. Alighting on a limb of a dead tree, the old male raised his handsome ragged crest briefly, and shuffled his wings as he settled comfortably. He was a chunky bird about fourteen inches long with short legs. His head, bill and back were of slate-blue, his neck and belly white, and he sported a broad slate breastband. A small circular patch of white decorated his head between bill and eyes. He sat idly perched. Suddenly, looking over his shoulder, he hesitated, then quickly changed position, facing in the opposite direction. His attention had been attracted by a school of fat brown minnows slowly puckering the surface of the pond as they wound their way through its murky depths. But the kingfisher appeared distracted, his attention taken as much with what was happening in the sky above as in the waters below. He looked up, his heavy dark bill pointing skyward. Gregarious cedar waxwings sat or chased each other in the trees a short distance from him. Suddenly the big-headed bird left his perch and called as he flew to another fishing spot – another, taller tree. He now sat alert, the rays of the western sun alight upon him.

He tensed. Cocking his head at the water below, he suddenly launched himself. Plunging in a slanting dive and sending up watery sprays, he smashed into its surface – his blue and white feathers a blurred swirl in a halo of liquid bubbles – the slant of the dive carrying him through the water in an upward arc as he grabbed at a minnow with his heavy mandibles. With a mighty heave of his downward swooping wings he broke through the surface, his wings pushing against the watery barrier, momentarily a picture of power and grace as the waters surrounded and followed him upward – then, releasing their liquid grasp, fell back upon themselves.

Carrying the minnow back to another perch, he rattled his pleasure briefly, a shaggy figure with crest standing in wet clumps, and then deftly turned the fish in his bill, swallowing it head first. He then sat for some time, dozing in deepening shadows as the darker shadows of hunting bats began their frenzied flights above the pond. On the far side of the pond, his offspring boisterously chased each other as they flew and called amongst the trees.

He had returned to this area in the spring of that year when silvery pussy willows were fat and studded with golden pollen grains, and queen bumblebees were foraging amongst them, already caring for the new bumblebee nests they had begun, waxen cradles hidden away in mouse burrows in the earth's dark places.

When a female kingfisher had appeared in his area, he bowed to her. She was as handsome as he, perhaps more so for her flanks were rusty and she wore a warm rusty band along the lower part of her breast. He was indeed a handsome bird and she accepted him as her mate. And in accepting him, she had heartily approved his choice of a home range.

In the following days, close to the top of a shrub-covered bank, both birds began to dig a tunnel in the sandy-clay soil which would become their home and that of their offspring. Using his heavy bill like a pick axe, the male had repeatedly hit at the chosen spot till a bit of soil was loosened. His mate would take her turn and soon a ledge was formed where they could perch and dig more rapidly. In a shower of sand, the tunnel grew. Shovelling the loose earth back beneath them and out the entrance hole with the partially fused front toes on their stubby little feet, they fashioned a rounded chamber at its furthest end. Within a short time their bills became worn at the tips from their efforts, and the branch upon which they rested outside the growing tunnel became grimy with the soil of their feet.

Soon young kingfishers were born in the bank nest. In the cool rounded underground chamber, on the bare earth, the mother bird laid her five white shiny eggs, and spent the next twenty-four days keeping them warm with the heat from the pink skin of her brood patch. Her mate would fish the nearby waters and diligently feed her at the nest, and, occasionally relieve her of maternal duties. He too was capable of keeping the eggs warm with his own brood patch. Unable to digest the bones of their fishy meals, the kingfishers would regurgitate them, thoroughly cleaned of flesh and bleached white by their stomach acids. These bones slowly built up over time around the developing eggs.

The male was protective of his territory and family. One morning as he dozed nearby, he was suddenly wakened from his slumber by the loud rattle of another kingfisher approaching from the south. He roused swiftly, belligerence showing in the stiffening angry outline of his body as the harsh call sounded closer. A stranger was coming into his territory. He held the fishing rights to this area, and would not tolerate the brashness of this bird. He dove off his perch and let loose a warning cry, repeating the raucous call several times as he gained height in an effort to locate the offender.

The stranger was flying in low, and the angry bird wheeled to face the intruder. The two continued on a collision course when the stranger suddenly noticed

the fast approaching bird. He turned sharply for he had no wish to force an encounter. He had wandered farther than usual from his home territory, unaware of this kingfisher family at the juncture of the pond, which lay at the northern end of the small lake where his own mate and family nested. Quickly altering course, he headed east at a sharp angle, the angry kingfisher swooping on his heels. Although the pursuing kingfisher chased him for a time at top speed, whizzing in and out of a maze of trees, he gave up once the escaping bird crossed a stream at the border of their territories.

Exultantly giving a triumphant battle cry, the kingfisher returned to his tree, but not to doze this time, for the chase and the excitement had given him a new appetite. He soon saw a small school of fish. Dropping off his perch, he momentarily hovered as he scanned the water on rapidly beating wings, then folding them back, down he dove, gaping and straining, and once more emerged dripping, with a fish gripped in his bill. Back to the tree, to kill it quickly against the branch, and then swallow it.

After the incubation, four of the eggs in the nest in the bank had hatched but the fifth did not and was soon broken. The smell of rotten egg hung heavily in the air of the tunnel but the kingfishers did not seem to mind the stench which permeated their home for a week. The young kingfishers, blind and naked, clung to each other for warmth, covering each other so tightly with wings and beaks that when one moved, they all moved. Their parents' legs were too short to allow them to cover the chicks. But the adults immediately set to, supplying their scrawny, ugly, big-headed youngsters, hidden away in their darkened cave, with the essentials for heat and quick growth—a fishy diet supplemented with crayfish, beetles and frogs.

The result of their parents attentive care was that the four young kingfishers, within two weeks, were covered in bristly sheathed feathers, giving them the appearance of quilled porcupines, and their eyes opened to the dank, dark world of their home. Then, a few days later, within a short twenty-four hour period, their feathers burst their sheaths and the young birds were covered in a fine feathery down.

These young birds did not produce fecal sacs, but rather ejected their liquid droppings against the walls of their nest chamber. Being in the habit of pecking earth from the sides of the walls of their underground home, this tended to bury the droppings. Their still tender bills had a special, blunt, hardened tip for the first half of their nestling life, and protected the soft bills from injury as they pecked at the walls. The tip was shed when the feather sheaths broke and the bill then hardened. This pecking habit made their nest cavity shallower as the floor built up with loose earth.

When they heard their parents call from without they would rush to the mouth of the tunnel, for the first and most alert would get the fish proffered. In time, they often sat at the mouth of the tunnel, peering out. Then, just a short month after birth, they crawled out and tried their wings for the first time.

When they left their dark world behind, the young stayed in protected places near their parents. The parents would often sound their call as they caught fish and fed their young. The young resembled their parents but their breast bands were mixed with much reddish brown.

In their early days, both adults spent time training their young. One day, as they all sat together in a row on a favourite perch, the male tried first, watching the water until a fish swam into view. He pushed from the perch into a power dive aiming for the fish. Then out of the water he came, flew back to the perch and whacked the fish against the limb to subdue it. He then dropped the fish onto the water, glancing down at it briefly as it began to float away. One youngster dived awkwardly, floundered and missed, and came up soaking wet. Another flew at the fish; he missed also. The third was rewarded and he flapped up to a tree to eat his prize. Now the mother bird, perched next to them on the same branch, dropped a dead fish and another of the young ones retrieved it. Soon all the young had been shown how to fish. But they still frequently missed and attempted to coax food from their parents.

It was now mid-summer and the male kingfisher was sitting in a new area. He appeared a contented bird as well he should for the pond had provided his family abundantly. As though to confirm his pleasure he launched himself from his perch and rattled his way across the pond, round a bend, and back again to the other end of the pond. The loud raucous call broke the stillness of the early morning. On his daily patrols, he knew every perch and branch and returned to them again and again.

The young kingfishers, which now agilely darted and swooped up and down a stretch of the larger pond, let go with the familiar kingfisher call, but their efforts at fishing were still clumsy and they frequently missed as their prey fled in panic from the wildly chomping bills. The young kingfishers would often play at fish-catching, diving on and retrieving small twigs from the water. The mother kingfisher, despite the fact that her brood were quite close to looking after themselves, still fussed over them. Her mate, however, had come to prefer the solitude of the smaller, upper pond.

But now, they were fast becoming experts, and soon they would go their own way as they explored farther and farther afield in their home territory. By fall they would be proficient fisher birds, healthy and sleek, well fattened for their migration flight to the south.

On his perch in the setting sun, the male kingfisher suddenly opened his eyes and held his head to one side as the call of his own kind, as though from a distance and through a haze, intruded again upon his slumbers. It seemed as though when he had fallen asleep summer was high, and its warmth had lulled him. Now in the waning light of the setting sun, a cold breeze had risen, and the sombre green of the pond had been replaced with the brilliant colours of a glorious autumn and in the deepening light which surrounded him, stained the waters orange and gold. Again the loud raucous calls of his offspring echoed over the pond, and he knew they must soon leave for the cold breeze spoke of another season, a season of ice and snow, ice which would hold their home in an iron grip and no longer allow it to nurture this kingfisher family.

He dropped from his perch in the last piercing golden shafts, and flew towards the now waning calls of the young kingfishers. ¤

A Crow's Nest in Tunney's Pasture

Louis L'Arrivée

Figure 1. Adult crow and nestling observed in early June, 1992.

On April 24, 1991 I noticed an American Crow (*Corvus brachyrhynchos*) adding twigs to an almost completed stick nest at the top of an Austrian Pine (*Pinus nigra*). The pine, approximately 7 metres in height, was located in the courtyard behind the Health Protection Building of Tunney's Pasture, Ottawa, and I observed the crow from a second story window of that building. Since that day, I kept a daily record of events at the nest. I first noticed a crow sitting in the nest on April 28 but could not determine if she had already laid her eggs as the window was level with the nest, not above it. After that, I saw her on the nest on the following dates: April 29, May 1, 4, 5, 6, 7, 8, 11, 12, 13, 21, 22, 25, 26, 27 and 28. On those working days when I did not observe the crow on the nest, it may have been there but out of sight.

May 29 was the first day I saw nestlings in the nest, almost exactly one month after I first saw an adult on the nest (*Figure 1*). Also, two adults were feeding the young. Both adults were seen feeding the young on June 2, 3 and 8 also. Although both crows were most certainly feeding the nestlings every day from May 29 (and perhaps before) through to and after June 8, I was not always at the office window to observe them. On June 2nd, I counted at least four nestlings in the nest. However, on June 11, Dr. Donald Smith of Carleton University and I gained access to the roof of the building to photograph the nest (*Figure 2*). We confirmed that there were five nestlings; by this date, they were feathered over most of their bodies.

Figure 2. Feathered young observed on June 11, 1992. Five nestlings occupied the nest.

Figure 3. Adult leaving nest after feeding the young. Photo taken after June 22, 1992.

On June 8th, my colleague, Elizabeth Vavasour, and I determined how often the parents visited the nest to feed the young (Figure 3). Although we were not always looking out our office windows, it appeared that the parents fed the young at ½ to 1 hour intervals. During these feeding periods, we noted that one parent would visit the nest while the other often stood watch about 20 metres away on the roof of a nearby building. After feeding the young, the crow would leave the nest and 5 minutes later, the other parent came to feed the young. The following week (June 15-19), they appeared to be feeding at the same frequency. However, only one crow visited the nest at a time and it could not be determined if both parents or only one fed the nestlings. The nestlings were much larger at this time and jostling about within the nest; one or two were observed flapping their wings.

By June 22nd, Elizabeth Vavasour reported that the nestlings were out of the nest; some were seen on the lower branches of the nest tree and others were in nearby pines. On June 23, I observed two fledglings in the nest tree uttering calls characteristic of immature crows. June 24th was the last date I observed one of the immature crows. It was on a windowsill at the front of the building between 7:30 and 8:00 a.m. and could be heard calling from a nearby maple later in the day. During these last few days when the young were out of the nest, I did not observe the adults feeding them. They were smaller than the adults at this time and their flight and tail feathers had not yet reached adult length.

My observations conformed closely to published reports. Peck and James (1987) stated that in Ontario, the American Crow usually nested in living trees, with coniferous trees being somewhat preferred over deciduous trees, and of the coniferous trees, pines (*Pinus* spp.) were the most frequently chosen. Nests were usually located in the upper one-third of the tree and well hidden. Clutches averaged 4-5 eggs and Ontario egg dates ranged from March 3 to June 20. Peck and James had no information for incubation period but Godfrey (1986) cited O.W. Knight's report that incubation is 17-20 days, by both sexes. Gross (1946) stated that the incubation period is 18 days and that young crows leave the nest when they are about 5 weeks old, unless disturbed.

The crows I observed at Tunney's Pasture demonstrated the same nesting preference described by Peck and James except that the nest was not well hidden but in fairly clear view near the top of the tree. Based on Gross' report, it appears that the nestlings at Tunney's Pasture hatched about 5 weeks before June 22, i.e. *circa* May 18. If incubation was 17-20 days, eggs must have been laid about the end of April and incubation started about April 29-May 2. As indicated above, April 28 was the first date I noticed an adult sitting on the nest.

Acknowledgements

I gratefully thank Elizabeth Vavasour for her observations and Dr. Donald Smith for reviewing an earlier draft of this article.

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March Dance

Outside my window a chickadee
is seeking spiders
fluttering like a slow hummingbird
hovering beneath our thin-lipped
maple seeds clustered on the ends of twigs
moving from one frond to another
to find prey warmed by morning light
or what else moves spiders
to come out from winter lair
on a cold morning in spring?
Why this frantic searching when
the feeders are filled with seeds that
fed chickadees all winter, I wonder
or is there some goodness in spiders
some sweet taste that lingers
that makes a bird go searching
dancing in the air with sunlight
split through fast feathers
a splash of light, dangling an instant
faster than I can reach for pen...
a moment gem.

Robert Nero

Being Good Neighbours on the Rideau

Charles Billington
Community Relations Coordinator
Rideau Valley Conservation Authority.

Up until about 1950, the water quality in Eastern Ontario's Rideau River remained very good mainly because there were still relatively few people around. In the last forty years however, the human population in the Rideau Valley has skyrocketed with no adequate increase in care, concern and protection for our river.

Population increase triggered many of our river troubles, and the end is not in sight. The number of people living in the watershed is expected to double to almost one million people in the next twenty years.

Boat traffic on the Rideau system has increased 50% since 1977 and now over 90,000 boats per summer go through the locks. Vacant land, farms and open space along the water are being eaten up for subdivisions at a fast rate. Experts say that within 20 years, the Ottawa-Carleton population outside the Greenbelt will equal that inside the Greenbelt.

Landowners on many parts of the Rideau are still tempted to install vertical seawalls of steel, concrete, or old railway ties full of creosote. There are easier, less expensive, and more environmentally friendly ways to do the same thing.

Sewage systems in the towns and cities have not been upgraded as population increased. Smiths Falls and Kemptville are now in the process of enlarging and improving their sewage treatment facilities. The Merrickville facility is operating at capacity. A tentative plan for enlargement of the Westport treatment plant is undergoing public scrutiny and improvements are foreseen in the near future.

Individuals too create problems when they try to bring the city to the country. Newcomers to the rural scene often push degradation of the natural world into high gear. Things like increasing the number of boats on the water, water use conflicts, dumping boat holding tanks into the water when no one is watching, cutting out the bush and deforestation, inappropriate shoreline development, filling in that little wet spot in the corner of the property and general "hardening" of the shore. If only one or two individuals made these changes to the environment, it would not make much difference. But when multiplied by lots of people over forty years, you can start to see why we are having water quality problems. Those same individuals—you and I—can also start to reverse the trend if we want to. It's just a matter of attitude.

Bulldozer 1, Shoreline 0.

This has happened before in many parts of the world and we still don't seem to be clear on the concept. People discover an area of peaceful beauty and relaxtion. They then proceed to transform it into an unnatural private suburb complete with mansions, filled and bulldozed lots and stunning chemical-dependent lawns and landscaping right to the water's edge. Such cultured fairy tale settings do look nice. Out of place, but nice.

Such "cleaning-up" of waterfront lots degrades water quality.

In all these situations, the ribbon of life...that delicate and vibrant area where the water meets the shore..takes a beating and is often simply ripped to shreds. The first mistake new waterfront lot owners often make is to clear-cut the natural vegetation along the shore and even into the water. Without the buffering effect of shoreline vegetation, water quality goes down, wildlife goes with the plants and open natural woodlands and marsh areas disappear fast. The minnows, bullfrogs, and herons pack up, the bottom becomes a barren expanse, and the natural world quickly abandons it – the latest nail in the coffin of a once healthy shoreline. Sadly, people destroy the very features for which they bought the property in the first place.

The good news about humans and the Rideau is that all our emerging problems can be fixed. Shoreline development doesn't have to be ecologically disastrous. All it takes is a modest attitude adjustment (and maybe some municipal and provincial guidelines to get us started) to understand that **people are part of the environment.** And a big part at that.

We can choose to turn our own lovely lakes into sewers, or we can choose to keep water quality at a high level. Our choice is the latter: to take a more "biocentric" point of view, to learn about the environment and how it works, to learn to live with nature rather than beating it into submission, to share the Rideau with other creatures including our children and grandchildren.

One of the most encouraging signs is that many people in the valley are becoming aware of conservation and what it really means. Many are asking for environmentally-friendly advice about land use and shoreline improvements. There is a growing sense of responsibility towards the environment, a sense that the old ways are depriving us of the things we most value about our lake and river settings.

It doesn't take a lot of money to work with nature. In fact individuals will save money simply by not doing, or constructing, or filling, or cutting those things many people used to take for granted. Generally, what's required is a little more "hands-off" experience. **Leave** the natural vegetation along the shore both in the water and on the land. **Avoid** using fertilizers and insecticides near the water. **Watch** your wake to avoid erosion along the waterway. **Check** that your septic system is up to standard. **Build floating docks** or a small, sturdy dock on metal stilts that intrude very little into the ribbon. **Remember that wildflowers** – formerly called "weeds" – in your lawn are proof of a poison-free, diverse, and blushingly robust ecosystem in action. In other words, relax, do very little and simply enjoy the big wide world of water and shorelines.

The payoff is enormous. We'll see improved personal health, recreation opportunities, water quality, and healthy waterways with diverse and vibrant ribbons of life.

Now isn't that a nice gift for future generations?¤

The Liliaceae and Smilacaceae of the Ottawa District

John M. Gillett

Curator Emeritus, Canadian Museum of Nature

Lilies are particularly resplendent in the Ottawa spring. The showy white Trilliums are well known but there are many other less obvious but equally pretty spring flowers which belong to the lily family. The intent of this article is to alert the reader to look for the native and introduced plants of the Lily family (*Liliaceae*) and a close relative in the Greenbrier (*Smilacaceae*) family which are found in our region. Cultivated plants are mostly omitted because they are so numerous and form a topic in themselves. Here is a key to the two families.

1. Staminate (male) and pistillate (female) flowers on separate plants; vines; leaves with 3 main veins, each connected by a fine network of smaller veins . . . . . *Smilacaceae*

1. All flowers with both stamens and pistils; non-woody (in our district); leaves with more than three parallel veins, without net-like veins between them (except Trilllium) . . . . . *Liliaceae*

SMILACACEAE

The known *Smilacaceae* in our area is limited to one species only, in one of the four genera in the family. Members of this family are all climbing shrubs or vines with opposite or alternate leaves having the base of the leaf stalk or petiole modified to form tendrils which assist the plants to climb. Leaves have 3 main veins each with net-like veins connecting them. The flowers are usually unisexual, with male and female flowers on separate plants. Most species of *Smilax* (350 species in all) are perennial vines with rather nasty hooks along the stems. These also assist in climbing. Our single species (*Smilax herbacea L.*) along with several other species has no spines at all. For this reason they are all placed in a separate section of the genus (*Nemexia*).

SMILAX

Smilax herbacea L., the Carrion-flower, Jacob's-ladder, Raisin de couleuvre, is an herbaceous vine climbing by tendrils, often to a considerable height. The hairless, oblong to ovate leaves are small at the time of flowering (about 3-4 cm long and 1-3 cm wide), but become large and firm at maturity when they are 9-10 cm long and 5-6 cm wide, whitened below and with strong yellowish main parallel veins having a fine network of smaller veins between them. The leaf base is flattened across or heart-shaped, the tip is pointed. The umbels of flowers are borne on stalks or peduncles up to twice the length of the leaves,

OFNC S

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RESERVATIONS: To order tickets, fill in the order form and send it along with remittance before **April 15** to:

The Ottawa Field-Naturalists' Club
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2037 Honeywell Avenue
Ottawa, Ontario K2A 0P7

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- selection of wines
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Prints and artwork must be mounted for easy handling. All items for display should be brought to the Unitarian Church between 4 and 7 p.m. on April 30th and taken home at the end of the evening.

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Prizes will also be awarded for the best Macoun Field Club displays. Children attending either primary or secondary school who are OFNC members but not Macoun Field Club members are invited to compete as well.

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each with 20-100 or more flowers. The flowers are ill-scented which accounts for the vernacular name. As in other *Smilax* species, the fruit is a berry. Ours is bluish-green with a bloom and is about 1 cm in diameter.

Carrion-flower is a plant of rich, low woods, along rivers and streams. Look for it around Leamy's Lake, or Rockcliffe near the river. Flowering is in early June and fruiting begins in late June extending to September.

Smilax herbacea

LILIACEAE

Members of the Lily Family (*Liliaceae*) are all perennial herbs arising from bulbs, corms, tubers or rhizomes and are spring flowering. Stamens are usually six, each opposite the sepals. The petals and sepals (together forming the perianth) usually total 6 (exceptionally 4) and the ovary has 3 locules or carpels. Perianth parts are similar in color except in *Trillium* where the calyx is green and the petals colored. The fruit is a capsule or a berry.

Most members of the Lily Family are of interest horticulturally because they contain may beautiful plants such as the true lilies (*Lilium*), tulips (*Tulipa*), squills (*Scilla*), hyacinths (*Hyacinthus*), day-lilies (*Hemerocallis*), grape-hyacinths (*Muscari*), and many others . The only important food plants belong to the genus *Allium*.

For those who are not intimidated by keys, here is one for the genera occurring in our area. *Asparagus* and *Hemerocallis* are included because they are culivated plants that have escaped and have become sufficiently established to merit attention.

1. Flowers solitary . . . . . 2.

1. Flowers in clusters . . . . . 6.

2. Leaves reduced to tiny scales (which fall off eventually) with green foliage represented by needle-like branches . . . . . *Asparagus*

2. Leaves evident . . . . . 3.

3. Stem leaves numerous, alternate or in several whorls . . . . . 4.

3. Stems with only two leaves or with a single terminal whorl of three . . 5.

4. Leaves elongate, in whorls on the unbranched stem; flowers large and showy, bell-shaped or funnel-shaped, orange with spots; plants from scaly bulbs . . . . . *Lilium*

4. Leaves oblong to ovate, alternate; stems usually forking; flowers medium-sized, yellow; plants with rhizomes . . . . . *Uvularia*

5. Plants with two elongate parallel-veined, speckled leaves borne near the ground; sepals and petals similar, yellow; fruit a capsule . . *Erythronium*

5. Plants with three broad, net-veined, unspeckled leaves in a whorl at the top of the stem; sepals green, petals colored; fruit a berry . . . *Trillium*

6. Flowers large, 1-1.3 dm long, yellow to orange, funnel-like, ascending; leaves broadly linear, keeled . . . . . *Hemerocallis*

6. Flowers much smaller . . . . . 7.

7. Flowers in umbels . . . . . 8.

7. Flowers borne otherwise . . . . . 10.

8. Leaves basal; umbel borne on a leafless stalk or scape . . . . . 9.

8. Leaves borne along the stem in two whorls, one about the centre, the other at the top of the stem; flowers greenish yellow . . . . . *Medeola*

9. Plants from bulbs; white umbel subtended by papery bracts; leaves tubular and hollow or flat with an odor of onion when bruised; fruit a capsule . . . . . *Allium*

9. Plants from slender, elongate underground stems (rhizomes); umbel without subtending bracts; leaves broadly elliptic with hairy margins, without an onion-like odor; flowers greenish yellow, in umbel; fruit a blue berry . . . . . *Clintonia*

10. Leaves linear, mostly basal; flowers whitish or greenish suffused with purple . . . . . *Zigadenus*

10. Leaves borne along the stem; flowers pink or white . . . . . 11.

11. Stems clearly branched . . . . . *Streptopus*

11. Stems not branched . . . . . 12.

12. Flowers borne singly or more often in pairs in the axils of leaves . . . . . *Polygonatum*

12. Flowers borne in a terminal simple or complex raceme or panicle (each raceme branch is in intself a raceme, or the flowers may be more than one at a node) . . . . . *Maianthemum*

ALLIUM

In the Ottawa region we have the rare Wild Chives, Ail civette, Ciboulette or Brûlotte which is *A. schoenoprasum* var. *sibiricum (L.) Hartm.* and is distinguished from the cultivated chives (var. *schoenoprasum*) by the stout stems, 2-5 dm tall and by the leaves which are borne along the stem. The cultivated chive has more slender basal leaves and is about 1-3 dm tall. Flowers in both appear at the same time as the hollow, tube-like leaves.

However, the more common Allium in our area is the Wild Leek, Ail des bois, (*A. tricoccum Ait.*). In early spring the Wild Leek puts up its flat almost elliptical leaves, 10-20 cm long, 2-6 cm wide. These leaves later turn yellow and die down, and the stalk or scape arises bearing the cluster of white flowers. The seeds are spherical, black and shed by the capsule even into the following winter when I have seen them on the surface of the snow.

Alliums of interest from the gardener's point of view include the onion or shallot (*Allium cepa*), the leek (*A. porrum*), garlic (*A. sativum*) and chives (A. *schoeneprasum*).

Onions and their relatives arise from bulbs and have an odor of onion when crushed. The flowers are borne in a terminal cluster called an umbel. The dry capsule splits to discharge round to ovoid, black seeds.

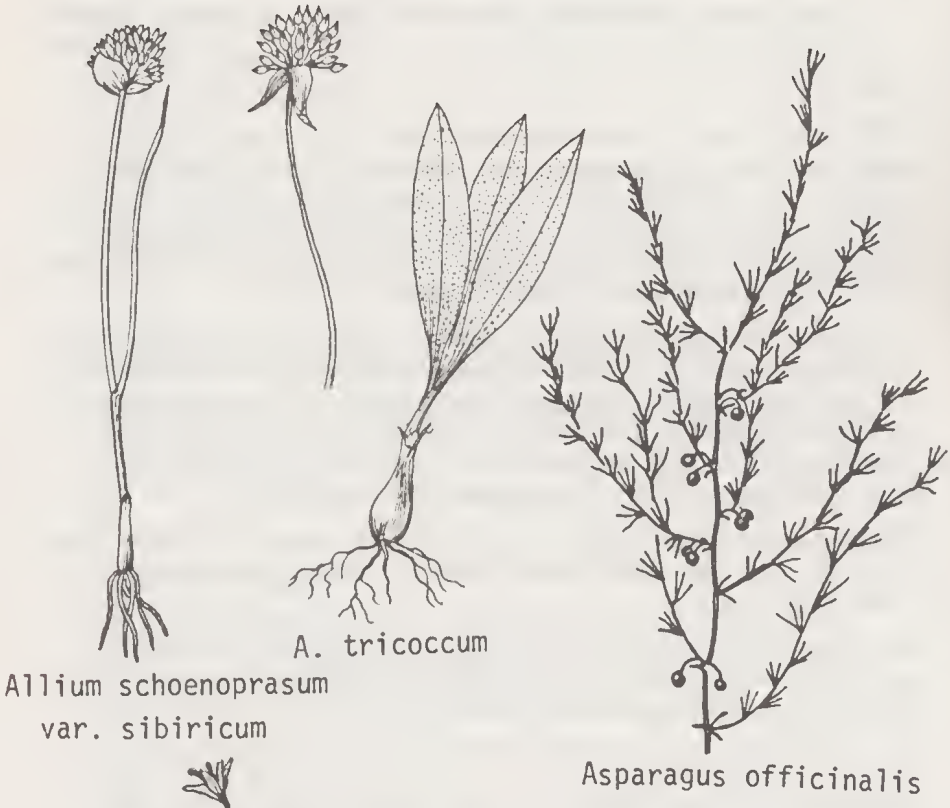
ASPARAGUS

Asparagus (*Asparagus officinalis L.*) is cultivated both commercially and in gardens throughout our region for its edible shoots. It has stout, branched rhizomes. The stem is branched and arises to a height of about 2 meters. The leaves curiously are reduced to scales, each bearing a branchlet about 15 mm long in the axil which functions as a leaf. The flowers are axillary and borne on pedicels or stalks about 1 cm long. The perianth is bell-shaped, 3-5 mm long, greenish-white. The fruit is a red, round berry 6-8 mm in diameter.

Asparagus is found in ditches and fields throughout the region.

CLINTONIA

The Bluebead- or Corn-lily, sometimes called Poisonberry, Lis sauvage de la vallée, *(Clintonia borealis (Ait.) Raf.)* is a boreal forest element. It is a perennial herb with an underground stem or rhizome. The basal leaves are in twos or fours, dark shiny green, oblong to elliptical in shape and are about 20 cm long and 8 cm wide with a clasping base. Flowers are greenish-yellow, borne in an umbel on a leafless stalk or scape that extends above the leaves and may be 20 to 40 cm tall. There are 6 perianth segments and 6 stamens. The fruit is a blue berry up to 0.8 cm in diameter containing several seeds. Don't confuse these with blueberry as someone once did by offering them for sale as blueberries at



Allium schoenoprasum
var. sibiricum

A. tricoccum

Asparagus officinalis

Clintonia borealis

Erythronium americanum

the market. The berries are reputed to be somewhat poisonous but I don't think that this has ever been substantiated and I am not willing to volunteer.

ERYTHRONIUM

At the margins of woods one often comes across great masses of elongated elliptical and fleshy green leaves mottled with brown. These are the leaves of Trout Lily or Dog's-tooth-violet, Ail doux, Ail douce (*Erythronium americanum Ker*). Although the common name suggests that it is a violet, nothing could be further from the truth because it is in the lily family. The plants form huge colonies with relatively few plants that produce blooms. They arise from deep-rooted scaly bulbs which are very difficult to dig up. If you try, sure enough the stem will break free. The solitary flower is borne on a stalk or peduncle up to 10cm long and is nodding. The floral parts or perianth are similar and undifferentiated. The stamens are interesting because there are 6 of them, 2 shorter than the other 4, and they may have yellow or brownish-red anthers. This stamen difference is probably an adaptation to cross-pollination. The fruit is a blunt capsule about 2 cm long, bearing a persistent style of about the same length. Plants flower from April through to early June.

HEMEROCALLIS

Most people are familiar with the Day-lily, Lis d'un jour, so called because the flower only lasts for one day. Many different species are in cultivation and some of them "escape" from cultivation. The one most seen in ditches and about farm buildings is *Hemerocallis fulva L.* The Day-lily is a tall plant reaching a height of about 1 meter. Leaves are basal, in 2 ranks, strap-shaped, 35 to 40 cm long and 2 cm broad. The flowers are irregularly arranged at the top of the stalk in groups of 3 to 15. They are orange with 6 recurved perianth parts 8 to 15 cm long united below into a funnel-like tube; the inner three are wavy margined. The fruit is a capsule.

LILIUM

We have only one native lily in the Ottawa region, the Wood Lily, Philadelphia or Freckled Lily, Lis de Philadelphie (*Lilium philadelphicum L.*). Wood Lily is common along the Gatineau Park escarpment and on the Burnt Lands, which is the country lying between Carp and Almonte, in open places. However, urban sprawl is rapidly reducing the habitat. There are about 80-100 species of lily in North America. Wood Lily grows from a scaly bulb several centimeters in diameter. The flower occurs singly or several together on stalks up to about 60 cm tall; ours are usually shorter. Petals are usually red-orange with purple spots below, but I have seen them clear bright red. Pure yellow flowers also occur. The capsule contains flat seeds as do all species of lily. The upper leaves at least are in whorls, and are slender and about 5-10 cm long. Ours belongs to the var. *philadelphicum*, but there is a var. *andinum* (Nutt.) Ker with more slender leaves found in the western provinces.

A cultivated species *L. tigrum* Ker, the Tiger Lily or Martagon Lily, Lis japonais, occasionally escapes from gardens. Others may do this also.

MAIANTHEMUM

Recently the genera *Maianthemum* and *Smilacina* were united under the first and older name (LaFrankie, 1986a, 1986b). Previously they had been separated on the basis of the number of floral parts, the flowers of *smilacina* having six tepals (tepals can be either sepals or petals if you can't distinguish the two), six stamens and three carpels; those of *mainthemum* in the strict sense having four tepals, four stamens and two carpels. On other morphological and evolutionary grounds, however, LaFrankie combined the two. I think his argument is valid so I am combining them here.

The result of all this as far as we are concerned is that the Wild Lily-of-the-valley and the three False Solomon's Seals found in the Ottawa region are now placed in the same genus – not very world-shaking to the naturalist but important because it is contrary to existing floras and wildflower books. I have also taken the liberty of changing the French name from 'Smilacine' to'Maïanthème' to conform (I hope that I can do that!).

Here is a key to the species based partly on LaFrankie and partly on my Flora of Gatineau Park presentation.

1. Flowers borne in a simple or complex raceme . . . . . 2.

1. Flowers borne in a panicle (i.e. each raceme branch is in itself a raceme); flowers without stalks (pedicels) or the stalks very short . *M. racemosum*

2. Flowering shoot with 2-4 foliage leaves; rhizome segments cylindrical, 1-30 cm by 1-2 mm; roots restricted to nodes; . . . . . 3.

2. Flowering shoot with 6-11 lance-shaped leaves(i.e. widest just below the middle); rhizome segments cylindrical to club-shaped, 3-50 cm by 5-30 mm; roots at both nodes and internodes . . . . . *M. stellatum*

3. Base of stem leaves with a narrow or broad sinus; raceme with 1-3 flowers at each node; flowers with 4 tepals, 4 stamens, 2 carpels . *M. canadense*

3. Base of stem leaves tapered; raceme simple (1 flower per node); flowers with 6 tepals, 6 stamens, 3 carpels. . . . . *M. trifolium*

One of our common spring flowers is the Canada Mayflower or Wild Lily-of-the-valley, Maïanthème du Canada (*Maianthemum canadense* Desf.). This is not to be confused with the cultivated Lily-of-the-valley, Muguet (*Convalaria majalis L.*) which is found in most gardens and is prized for its delicate, bell-like, sweet-scented white flowers and at the same time condemned for its persistent rhizomes which make it most difficult to control. Its perianth parts are 6 in number; those of *Maianthemum canadense* are in 4's.

Hemerocallis fulva

Lilium philadelphicum

Maianthemum canadense

Maianthemum racemosum

Wild Lily-of-the-valley is also a perennial with a creeping forked rhizome. The stem is about 0.5 to 2.5 dm tall bearing usually 2 (occasionally 1 or 3) heart-shaped leaves 3-10 cm long. The flowers are borne in a raceme 2-5 cm long.

Wild Lily-of-the-valley has two variants, one with leaves hairless beneath, the other with hairy underside. Some botanists consider these as two entities because they have slightly different ranges and flowering times.

Wild Lily-of-the-valley has red berries only 3-4 mm in diameter.

Three False Solomon's Seals are found in our area. All are perennial herbs with creeping underground stems or rhizomes. The leaves are alternate and without stalks. The inflorescence is a cluster of flowers in either a raceme (flowers alternate and borne along an axis) or a panicle (each branch of the raceme is in itself a raceme). The calyx and corolla are similar and colored (tepals). There are 6 stamens, all longer than the perianth. The fruit is a red globose berry containing 1-2 seeds.

The False Solomon's Seal, Job's Tears, Raisinette, Maïanthème à grappes, (*Maianthemum racemosum (L.) Link*) (synonym *Smilacina racemosa (L.)* Desf.) is a tall plant up to almost a meter in height and with a fleshy rhizome. The stem is arched and slightly zig-zag. There are up to 12 sessile, elliptical to oblong, taper-pointed leaves nearly 25 cm long and 8 cm wide, softly hairy with prominent veins on the underside. Flowers are white, 0.5 cm in diameter on short pedicels, borne in a large ovoid branched panicle 5-15 cm long. The calyx and corolla are not separable; the floral envelope of 2 whorls of 3 triangular segments are shorter than the 6 stamens. The berry is globular, green or speckled becoming ruby red later.

False Solomon's Seal is a plant of mixed woods, especially near the margin. It flowers in June and fruits in July, persisting throughout the season.

The Star-flowered False Solomon's Seal (a good example of the vernacular name being longer than the scientific name), Maïanthème etoilé, (*Maianthemum stellatum (L.) Link*) (synonym *Smilacina stellata (L.)* Desf.) is a smaller plant up to about 45 cm with an erect or slightly arched zig-zag habit. The leaves are numerous, clasping the stem at the base, often folded lengthwise along the midvein. They are about 12 cm long and 3 cm wide (i.e. slightly narrower than the last species.). Flowers are white and have long pedicels, otherwise much the same as the last. The red berry is about 4 mm in diameter.

The SFFSS (good place for an acronym) is found in mixed woods, clearings, rocky places and sandy soil, often occurring in patches. Flowering is in May and June and fruiting from July to September.

The Three-leaved False Solomon's Seal, Maïanthème trifolié (*Maianthemum trifolium (L.) Sloboda)*(synonym *Smilacina trifolia (L.)* Desf.) has slender branched white rhizomes and stolons and is about 5 to 20 cm tall. There are 2-4 usually reverse lance-shaped (i.e. broadest above the middle, gradually tapering to the base) to elliptical leaves, 5-10 cm long and 2-4 cm wide, often folded

Maianthemum stellatum

M. trifolium

Medeola virginiana

Polygonatum pubescens

lengthwise. Flowers are similar to the others but borne in a simple stalked raceme, 2-6 cm long. The berry is 5-7 mm across and red like the others.

This plant is restricted to bogs, fens and mossy woods. Flowering is May and June and fruiting July and August.

MEDEOLA

Another plant with whorled leaves is the Indian Cucumber-root, Concombre sauvage or Jarnotte *(Medeola virginiana L.)*.

Cucumber-root gets its name from the white, horizontal, underground stem or rhizome which is edible and has a crisp texture and a cucumber-like flavor. One should resist the temptation to eat them as they occur only occasionally in woods and digging them up for this purpose would quickly eradicate them.

The stem of this plant is about 70 cm tall with patches of wool-like hairs. Leaves usually are in two whorls totalling 11, the lower with the larger number. The lower leaves are about 9 cm long and 3 cm wide. Flowers appear in umbels (you remember what they are!), are greenish-yellow and pendulous. Perianth parts are similar (that is, petals and sepals are alike, unlike Trillium, for example, where petals are colored and sepals green). Flowering is in June and July and fruits are ripe by September.

POLYGONATUM

Solomon's Seal, Sceau-de-Salomon pubescent (*Polygonatum pubescens* (Willd.) Pursh) is a somewhat hairy perennial herb about 8.5 to 10 dm tall and arises from a horizontal rhizome. The alternate leaves are 10-15 cm long and up to 7 cm wide and elliptic to lance-shaped. Leaves are hairy along the veins beneath. Flowers are pendant, usually in pairs in the axils of the leaves on stalks about 5-7 cm long, each flower on pedicels 7-12 mm long. They are yellowish-green and 6-lobed. The fruit is a blue to purple berry 1.5-3 mm in diameter. Solomon"s Seal is common in most moist shady woods. It flowers in May and June and fruits in July and August.

The cultivated Solomon's Seal (*P. Multiflorum (L.) All.*) also escapes from time to time. It is a much larger plant.

STREPTOPUS

Two species of Twisted Stalk, Streptope, occur in our region. They are easy to recognize because they have branched stems which distinguishes them completely from other spring members of the lily family. The two species can be separated with the following key:

1. Leaves with entire margins, heart-shaped at the base and clasping; stems hairless at the nodes; flowers greennish-white . . . . . *S. amplexifolius*

1. Leaves with hairy somewhat ciliate margins, nearly sessile, not clasping; stems somewhat hairy at the nodes; flowers rose . . . . . *S. roseus*

Streptopus amplexifolius (L.) DC, Twisted Stalk, Streptope amplexicaule, is sparce in our area. It grows in mixed woods, flowering in June and fruiting in July.

Streptopus roseus Michx., Rose Twisted Stalk, Caribouberry, Rognons de coq, Streptope rose, is the common species found in rich woods. It has the same flowering and fruiting times.

TRILLIUM

Let us now look at the Trilliums or Wake-Robins because everyone is familiar with them. If you have arrived recently from Europe, you would probably know the genus Paris which looks a great deal like Trillium but is not as showy.

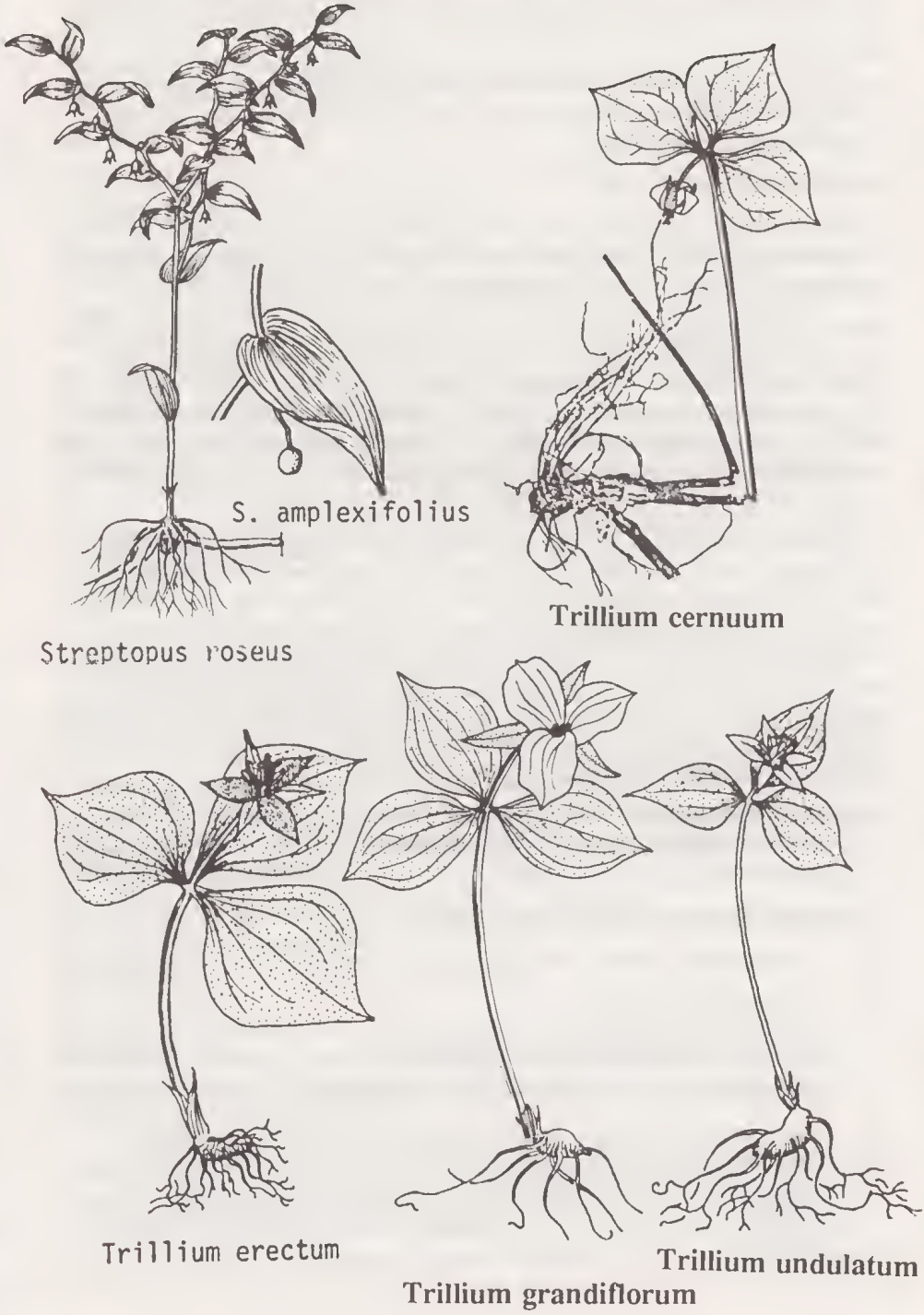
We have just four Trilliums in our region. One of them, Painted Trillium, Benjamin, or Sarah, Trille ondulé, (*T. undulatum Willd.*) has stalked leaves, the others do not. All the Trilliums have 3 leaves. Occasionally a sport appears with more but this is unusual. Painted Trillium has slightly off-white flowers with crimson veining at the base of each petal and it has pointed leaves. Usually they are found in somewhat acid places often associated with hemlock trees or red maple.

Of the stalkless (sessile) species, two, the Large-flowered or White Trillium, Trille blanc, Trille grandiflore, Paquerette, (*T. grandiflorum* (Michx.)Salisb.), and the Red Trillium, Stinking Benjamin or Squaw-root, Trille dressé (*T. erectum L.*) have erect or ascending flowers. The third species is the Nodding Trillium, Trille penché (*T. cernuum L.*), which has the flower bent downwards beneath the leaves. Nodding Trillium has petals recurved at the tip and the flower is white to pale pink, usually white; the Red Trillium has maroon to dark purple, ill-scented flowers. Nodding Trillium can be found only in the southeast portion of our area in deciduous woods in rich soil.

A word of caution, White Trillium turns pink with age, so you haven't found a new one. Occasionally, too, green-flowered or multiple-petalled forms turn up. They may be due to the presence of a virus similar to those found in Tulips.

This can be summarized in the form of a key:

1. Leaves stalked; flowers white with crimson veins . . . . . *T. undulatum*
1. Leaves stalkless (sessile) . . . . . 2.
2. Flowers nodding, borne beneath the leaves . . . . . *T. cernuum*
2. Flowers erect or ascending, borne above the leaves . . . . . 3.
3. Flowers white, turning pink in age: odorless; petals large and showy, longer and broader than the sepals . . . . . *T. grandiflorum*
3. Flowers red with a fetid odor; petals equal or only slightly larger than the sepals . . . . . *T. erectum*


S. amplexifolius
Streptopus roseus
Trillium cernuum
Trillium erectum
Trillium grandiflorum
Trillium undulatum

UVULARIA

Two other spring flowers of great beauty and easy to recognize are the Bellworts, of the genus *Uvularia*. These are rhizomatous perennial herbs arising from short underground stems or rhizomes. The pendant flowers are borne terminally but appear to be borne in the leaf axils because of the elongation of the branches. Flowers have six undifferentiated, elongate, perianth parts and 6 stamens, 3 of them short and 3 long. The fruit is a capsule that splits along the sutures.

The Bellwort, Merrybells or Large-flowered Bellwort, Jonquille sauvage, Uvulaire grandiflore (*Uvularia grandiflora* J.E.Sm.) is a conspicuous and very handsome spring flower found in rich woodlands. One to several stems, simple or forking above, rise to 30 to 60 cm tall. The lower leaves of Bellworts are reduced to bladeless sheaths in the lower part of the stem. The upper leaves are 3-4 cm long, 0.5 to 2 cm wide, dark green above, pale and minutely hairy below, elliptical to lance-shaped and clasping where they meet the stem. They also appear to droop or to roll lengthwise. After flowering they enlarge to about 12 cm long. Flowers are also pendulous, 2-4 cm long, borne in the leaf axils, and are yellow. The blunt, 3-angled capsule is distinctive.

The sessil-leaved Bellwort, Uvulaire à feuilles sessiles (*Uvularia sessilifolia*) is a smaller plant about 30 cm tall and is essentially hairless. The leaves are broadly lance-shaped, about 8 cm long and are merely rounded at the base. Flowers are a lighter yellow, almost straw-colored, with perianth parts about 2.5 cm long. The capsule is ellipsoid rather than pyramidal and pointed rather than blunt.

Both species flower from late or mid-April to the end of May and are found in rich woodlands.

They can be keyed out as follows:

1. Leaves clasping the stem, distinctly hairy beneath with smooth margins: yellow flowers 2.5-3.0 cm long; capsule with blunt apex, pyramid shaped with the broad end terminal, 0.8-1.5 cm long . . . . . *U. grandiflora*

1. Leaves merely without stalks, not clasping the stem, finely hairy beneath, the margins finely toothed; pale-yellow flowers 1.5 cm long; capsule 3-winged, elliptical in outline, tapered at both ends, 1.5-3.0 cm long . . . . . *U. sessilifolia*

ZIGADENUS

The White Camass, Zigadène glauque (*Zigadenus glaucus* Nutt.) is a recent addition to our Ottawa District flora, being found in Gloucester, an area very poorly represented at the time when David White and I wrote the last Ottawa District checklist. This species and many others have been added to the flora by the explorations of Albert Dugal.

Uvularia grandiflora

U. sessilifolia

Zigadenus glaucus

The spelling of *Zigadenus* rather than *Zygadenus* found in many floras is the preferred and correct spelling according to the International Code of Botanical Nomenclature.

White Camass is a bulbous plant up to 75 cm tall with mostly basal, linear leaves about 35 cm long and 1-2 cm wide. Stem leaves are few. The flowers are borne in a panicle 25-40 cm long, the branches of which are subtended by large purple-tinged lance-shaped bracts. There are 6 perianth parts, 8-14 mm long, whitish or greenish suffused with purple on the back. Each has a dark, 2-lobed gland on the back at the base. The fruit is an ovoid capsule 10-15 mm long, splitting at the top with recurved valves.

Albert Dugal found it along and around a small stream coursing through woods, and in an open area of a fen with clumps of coniferous trees.

Acknowledgements

I should like to thank Dr. James H. Soper and Susan Laurie-Bourque for so kindly providing drawings of plants not found in Gatineau Park; the rest were the product of Sally Gadd who drew them for the unpublished Flora of Gatineau Park.

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The Ontario Science Centre

The Ontario Science Centre has announced that a new exhibit hall will open in the spring of 1993. Named "The Living Earth" it will allow visitors to experience some of our different environments. Highlights include "a recreated tropical rainforest", and "a walk-through Ontario limestone cave", and there will be two living ecosystems: a maritime coastline and a coral reef. There are also other exhibits, and an area intended for special public and educational programs.

The Centre is at 770 Don Mills Road, Don Mills, Ontario, M3C 1T3, phone (416)429-4100), and will provide more information on request. ¤

Treasure Hunt

Up to my knees in clean snow
in a northern bog
carefully pawing open the overnight chamber of a grouse,
crouched over like some bear
digging for honey,
I discover gold!

Not the first time
I've excavated a kieppi
but another lesson in reality,
forgotten the cold
the fury of my anxieties
pushed aside like the snow
blocking this tunnel entrance.

The bed is marked by a
double handful of clean droppings
golden-brown, evenly-formed
expressed fibrous remains
easily lifted intact
with a layer of snow
solidified by body heat.

The upper layer of droppings
appears to have melted
then congealed... held up to
sunlight the smooth surface
shows fine striated patterns fine details of feather structure
cast in gold.

Robert Nero

Coming Events

arranged by the Excursions & Lectures Committee
For further information,
call the Club number (722-3050).

Times stated for excursions are departure times. Please arrive earlier; leaders start promptly. If you need a ride, don't hesitate to ask the leader. Restricted trips will be open to non-members only after the indicated deadlines.

ALL OUTINGS: Please bring a lunch on full-day trips and dress according to the weather forecast and the activity. Binoculars and/or spotting scopes are essential on all birding trips. Unless otherwise stated, transportation will be by car pool.

REGISTERED BUS TRIPS: Make your reservation for Club bus excursions by sending a cheque or money order (payable to The Ottawa Field-Naturalists' Club) to Ellaine Dickson, 2037 Honeywell Avenue, Ottawa, Ontario K2A 0P7, at least ten days in advance. Include your name, address, telephone number and the name of the outing. Your cooperation is appreciated by the Committee so that we do not have to wait to the last moment to decide whether a trip should cancelled due to low registration. We also wish to discourage the actual payment of bus fees on the day of the event.

EVENTS AT THE CANADIAN MUSEUM OF NATURE: The Club is grateful to the Museum for their cooperation and thanks the Museum for the use of these excellent facilities. Club members must show their membership cards to gain access for Club functions after regular museum hours. There is a charge for parking in the museum lot.

Tuesday **12 January** **7:30 p.m.**	OFNC 114th ANNUAL BUSINESS MEETING Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. At this meeting we elect our council for 1993, introduce the members who make this club work, and report on the activities of the various committees, as well as the club's financial position. This is an opportunity for you, as members, to participate with any questions and suggestions.

Saturday **30 January** **8:00 a.m.**	WINTER BIRDING AT CORNWALL POWER DAM Leader: Bruce Di Labio Meet: Front entrance, Brooke Claxton Building (Health and Welfare, Canada), de la Colombine Boulevard at Tunney's Pasture. This full day outing will be geared primarily toward the identification of overwintering gulls and waterfowl in the vicinity of the Moses-Saunders Power Dam. Expect the unexpected! Bring a lunch, warm drink and heavy winter clothing as well as proof of Canadian citizenship. (We may go over to the American side.) Transportation will be by private car.
Sunday **7 February** **9:00 a.m.**	CROSS-COUNTRY SKIING IN THE LAROSE FOREST Leader: Don Cuddy Participants should be prepared to ski 5 to 10km over fairly level terrain to observe signs of nature in winter. The outing will be limited to the first 14 persons who call the Club number (722-3050) before February 3rd. The meeting place and other details for this day trip will be provided to registrants.
Tuesday **9 February** **8: p.m.**	OFNC MONTHLY MEETING BIRD SOUNDS OF CANADA Speaker: Monty Brigham Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. Long-time Club member Monty Brigham has recently completed a 3-volume set of recordings representing the songs and calls of 330 bird species found throughout Canada. This compilation is essentially a sound identification guide which complements Earl Godfrey's book *The Birds of Canada*. Monty is a highly entertaining speaker who will regale you with some of the trials, the tribulations and the successes which occurred during the 19 years it took to complete the recordings you will hear. Copies of these recordings (cassette and CD) will be available for sale at the meeting. An evening not to be missed!

Saturday
13 February
10:00 a.m.
to
12: 00 p.m.

TOUR OF THE CARLETON UNIVERSITY GREENHOUSES (ELBA)
Leader: Henk Datema
Meet: At the greenhouses opposite the Administration Building in the southeast section of the campus. Parking is available in Lot # 3.
Enjoy a popular escape from winter, highlighted by a wide range of colourful and intriguing plants representing many different habitats from around the world.

Sunday
28 February
8:00 a.m.
to
8:00 p.m.

BUS EXCURSION: WINTER RAPTORS ON WOLFE ISLAND AND AT IVY LEA
Leaders: Bruce Di Labio and Colin Gaskell
Meet: Sears, Carlingwood Shopping Centre, south side, Carling Avenue at Woodroffe Avenue.
Cost: $15:00 (PLEASE REGISTER EARLY... see Registered Bus Trips at the beginning of COMING EVENTS for details).
This excursion will include a stop along the St. Lawrence River near Ivy Lea to search for wintering Bald Eagles and various species of waterfowl. The group will continue on to Wolfe Island, opposite Kingston, to observe owls, hawks and other interesting birds in the fields and woodlots. The late return time should permit a greater opportunity to witness owl activity at dusk. A stop for a light dinner will be made on the route home, but be sure and bring your own lunch as well.

Saturday
6 March
9:00 a.m.

TREES AND BUSHES IN LATE WINTER
Leader: Jim Wickware
Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.
An opportunity to explore a local area and learn how to identify trees and bushes at this time of year. This trip is limited to the first 25 people to register with the Club number (722-3050).

Tuesday **9 March** **8:00 p.m.**	OFNC MONTHLY MEETING THE NATURAL HISTORY OF ALGONQUIN PARK – ONTARIO'S CENTENNIAL PARK Speaker: Mike Runtz Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. Mike Runtz has worked as a professional naturalist for twenty years in both national and provincial parks and holds a special fondness for the wondrous rugged beauty and biological complexity of Algonquin. He is an ardent conservationist and an enthusiastic spokesman on behalf of the Park. Mike is also a highly acclaimed nature photographer and author with two excellent books to his credit ... *Moose Country* and *Algonquin Seasons*. His slide talk will be a tribute to the 100th anniversary of Algonquin and a visual celebration of its many charms.

Sunday **14 March** **8:00 a.m.**	LATE WINTER BIRDS AND EARLY SPRING MIGRANTS Leader: Tony Beck Meet: Westgate Shopping Centre, southeast corner of the parking lot, Carling Avenue and Merivale Road. A half-day outing that may include hawks, owls, waterfowl, various species of finches and some early returning migrants.
Date and time to be decided	AMPHIBIANS IN SPRING Leader: Stephen Darbyshire The success of the outing is highly dependent on the weather. Those registering with the Club number (722-3050) before March 20th will be notified when final details of the trip have been determined. A strong flashlight, rubber boots and a dip net (if possible) are highly recommended.
Sunday **4 April** **6:30 a.m.** **to** **6:30 p.m.**	BUS EXCURSION: SPRING BIRDING AT PRESQU'ILE Leaders: Bruce Di Labio and Jim Harris Meet: Sears, Carlingwood Shopping Centre, south side, Carling Avenue at Woodroffe Avenue. Cost: $20. (PLEASE REGISTER EARLY... see Registered Bus Trips at the beginning of COMING EVENTS for details). This popular spring tradition will focus on the large flocks of water fowl gathering at the provincial park prior to continuing their northward migration.

Tuesday **13 April** **8:00 p.m.**	OFNC MONTHLY MEETING PLANT COLLECTIONS OF THE CANADIAN MUSEUM OF NATURE Speaker: Erich Haber The Vascular Plants Division of the Botany Collections Section (CMN) contains approximately 600,000 specimens and collections of vascular plants. Research scientist Erich Haber will explain with the aid of slides exactly how these extensive holdings are managed and precisely what type of work he and the staff are concerned with. He will describe how specimens are stored and catalogued and elaborate on some of the ongoing research into the distribution of species and the resultant variations.

Sunday **25 April** **6:30 a.m.** **to** **6:30 p.m.**	BUS EXCURSION: HAWKS ALOFT AT DERBY HILL, N.Y. Leaders: Bob Bracken and Bernie Ladouceur Meet: Sears, Carlingwood Shopping Centre, south side, Carling Avenue at Woodroffe Avenue. Cost: $25:00 (PLEASE REGISTER EARLY... see Registered Bus Trips at the beginning of COMING EVENTS for details). When weather conditions are favourable, the spectacle of thousands of hawks migrating over Derby Hill is well worth the bus ride. Please bring proof of citizenship for the entry into the United States. Optical equipment in "new" condition should be registered with Canada Customs in advance of the trip. The trip will be cancelled on the day before if the weather forecast for the eastern end of Lake Ontario is particularly unfavourable. You will be notified of any change of plan.
Friday **30 April** **7.30 p.m.**	OFNC SOIREE—WINE AND CHEESE PARTY AND ANNUAL AWARDS Meet: Unitarian Church Hall, 30 Cleary Street. See the centrefold for further details.

Thursday May 13 to Sunday May 16 (inclusive)

POINT PELEE EXCURSION

The Club, through New Dimension Tours, is offering an excursion to Point Pelee to observe birds and other interesting aspects of natural history. A full day (Saturday) spent at nearby Rondeau Provincial Park is an added feature included in this year's trip.

Point Pelee National Park is a fascinating blend of marsh, beach, fields and mature Carolinian forest located at the southernmost tip of mainland Canada. Its strategic position along the migratory corridors has lead to its international reputation as perhaps the best spot in North America to view the northward migration of birds. Hordes of naturalists arrive each spring to observe many of the more than 300 species of birds (including 41 species of warblers) that have been recorded in the Park. It is possible to tally over 100 species in a single day during the peak of spring migration. Join your fellow Club members in this naturalists' paradise in 1993!

ACCOMMODATION will be at the Journey's End Motel in Leamington, a mere 10km from the Park entrance. Costs are based on twin occupancy (i.e., two beds per room) and work out to $270 per person. Triple and quadruple occupancy rates are also available at a cost of $225 and $205. per person, respectively. Prices quoted include all taxes. There is no single room rate available.

NOTE THAT THESE PRICES INCLUDE BUSFARE BUT NOT MEALS.

MEALS will be provided at nearby restaurants with breakfast tentatively scheduled for 5-5:30 a.m. and dinner for 6:30 p.m. Box lunches will be provided on Friday, Saturday and Sunday. Meals will be paid for individually; they are not included in the above quote costs. You should bring a bagged lunch with you on Thursday.

TENTATIVE ITINERARY

Thursday May 13

Leave Ottawa 6:00 a.m., stopover at Stoney Point in the afternoon and arrive in Leamington around 6:30 p.m.

Friday May 14

Breakfast between 5-5:30 a.m., depart for Point Pelee National Park at 5:45 a.m., arrive back at the motel by 6:00 p.m. Evening free.

Saturday May 15	Breakfast between 5-5:30 a.m., depart for Rondeau Provincial Park at 5:45 a.m., arrive back at the motel by 6:00 p.m. Evening free.
Sunday May 16	Breakfast between 6-6:30 a.m., spend 3 or 4 hours at Point Pelee before returning home, arrive in Ottawa around 8:00 p.m.

Notes:

1. Reservations should be made as soon as possible by calling the Club number (722-3050). Payment in full must be received by March 1,1993. Refunds will only be made in the case of special circumstances. Send your cheque or money order (payable to The Ottawa Field-Naturalists' Club) to Ellaine Dickson, 2037 Honeywell Avenue, Ottawa K2A 0P7. Do not delay in making your reservation. If the bus is not filled by OFNC members by March 1st, the trip will then be opened to the general public.

2. Be prepared for large crowds in the National Park.

3. The bus will be in proximity at all times during the day. ¤

Attention, All Members!

1993 membership fees are now due. Please renew promptly; late renewals entail extra work and add to your Club's expenses.

We would like to keep our mailing list up to date so that members do not miss a copy of *Trail & Landscape.* ¤

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The GREEN LINE

OPINION

An open letter to The Honourable Ruth Grier, Ontario Minister of the Environment from Michael Murphy of the Leitrim Naturalists' Group concerning proposed development of the Leitrim Wetland in Gloucester:

From May 1990 until October 1991, the Leitrim Naturalists' Group (LNG) participated in a series of meetings conducted by Tartan Homes Ltd in an attempt to find an "alternative development scenario" for lands in Gloucester, Ontario, which include a major portion of the Leitrim Wetland and a trout stream known as Findley's Creek. Other participants in these discussions were Cumming Cockburn Ltd, (Tartan Homes' engineering and environmental science consultants), representatives from the City of Gloucester, Lithwick Family Holdings, and the District Manager of the Ontario Ministry of Natural Resources. From time to time, the Federal Department of Fisheries and Oceans, the South Nation Conservation Authority and others also participated.

Delegates from the LNG participated in technical committees to review the key concepts and supporting studies. We also joined field expeditions to observe certain operations and surveys, such as the delineation of Tartan's proposed wetland boundary in December 1991.

The LNG must take this opportunity to recognize the goodwill of Tartan and their associates in their willingness to make certain concessions voluntarily. It is regrettable (and significant as well) that they are unwilling to save all of the wetland. We are disappointed to find that we were unsuccessful, during our many discussions, in conveying to the landowners how valuable and significant the wetland truly is.

Although media coverage of the negotiations between the naturalist coalition and the developers has been optimistic and has characterized the outcome as a successful compromise, the LNG can not recommend the process which has been used in this case. When we began the series of meetings, we believed that our role was to try to develop guidelines for development adjacent to - not within - the Leitrim Wetland. In October 1990, Tartan Homes and their associates proposed to convey a portion of the wetland into public ownership for protection and to make preparations to develop the entirety of the remainder for residential and institutional uses. We were told that the proposed boundary was not negotiable for economic reasons. The members of the LNG have resolved as a matter of principle that ecosystem health should take priority over economic goals where such goals conflict. With more than 80% of southern Ontario's wetlands already destroyed, we believe that no further destruction of wetlands - particularly provincially-significant wetlands - can be tolerated.

The planning process has proved inadequate to the purpose of resolving the issues.

On June 6th, 1990, the Regional Municipality of Ottawa-Carleton acted against the advice of their professional planning staff and refused the rights of several groups and individuals to refer the suggested Official Plan Amendment (Gloucester OPA #10) to the Ontario Municipal Board. In this and similar situations since that date, Regional Council has demonstrated clearly that they are not willing to follow provincial wetland guidelines. With each such decision, Regional Council further neglects their mandate to protect the natural environment, which is prominent among the Ministerial responsibilities delegated to them under the Planning Act. In addition, RMOC Council's denial of rights of appeal to the OMB constitutes a conflict of interest, as it was their approval for Gloucester Official Plan Amendment # 10 that groups and individuals sought to refer. However, the LNG is obliged to recognize the current legal status of the urban designation of the land affected by Gloucester OP Amendment # 10 although the members of the group still firmly believe an urban designation for the wetland is inappropriate.

Subsequent OMB hearing panels in January 1991, convened to hear referrals to the 1988 Regional Official Plan, refused to hear arguments concerning the merit of the recent urban designation of the Leitrim area. In fact, the OMB went so far as to extend the "urban envelope" by approving an urban designation for the Remer Lands (which include a portion of the Leitrim Wetland) but this designation was subject to the condition that the boundary between the wetland and developable lands would be set by a future OMB order. According to their decision, if the specified parties should disagree on the boundary, the OMB intends to resolve the question by arbitrarily establishing the boundary. The OMB will have to deal with this question in future which will review the RMOC refusal of an application by Remer Holdings, owner of the southern part of the Leitrim Wetland, to designate the entire wetland area as Marginal Resource Area (Restricted), including the part owned by Tartan and the part owned by Transport Canada west of Albion Road. Such a redesignation, if ordered by the OMB,

would place limits on plans of subdivision that regional council may approve, although Regional Council has clearly demonstrated no intention to protect the wetland despite clear evidence and wide acceptance of its natural significance.

The LNG does not specifically object to appropriate development in areas outside the wetland. However, we have outstanding concerns about the toxic waste dump within the Department of Transport portion of the wetland and the airport noise problem. Also, Regional Council approval in March 1988, for the original inclusion of the area including the Leitrim Wetland in the urban area of Gloucester, was contingent on the extension of the OC-Transpo transitway system throught the Sawmill Creek Corridor, an Environmentally-Sensitive Area in the City of Ottawa draft Official Plan.

The LNG continues to reject the economic rationale which attempts to justify the destruction of large areas of the wetland. We have seen no evidence that the economics of the project could not afford protection for the entire wetland. We believe that this objective is actually feasible but has never been seriously considered because there are no conditions requiring the landowner or the municipal authorities to protect this provincially-significant resource. There have been policies in place since 1984 which should have been applied by the OMNR, RMOC and City of Gloucester and which should have prevented the current undertaking from receiving any approvals under the Planning Act. In fact, the OMNR has been entirely silent on the application of the 1984 wetlands guidelines or the June 1992 Wetlands Policy Statement to the protection of significant values in the Leitrim Wetland. What remains at issue is whether their stated goal of the conservation of the "core wetland" would actually succeed or cause the water table within the wetland to drop still further, resulting in the destruction of the Leitrim Wetland.

No technical requirements with respect to the protection of wetland values have been established by the Ontario Ministry of Natural Resources, who would normally be the lead agency for this determination.

The LNG strongly agrees that the concerns raised by Mr. Dugal with respect to the possible damage to the wetland are valid. Quite apart from the fact that the wetland areas they propose to destroy are an integral part of the wetland complex, we feel that further investigation is required to definitely establish that residential development to the north of Tartan's proposed wetland boundary would not cause the water table to be drained down and ultimately kill the wetland. Please refer to Albert Dugal's article in *Trail &* *Landscape* Vol 26, #3, Leitrim (Albion Road) Wetlands Part 2 for more details. Indeed, the Golder report, October 1990, prepared for Tartan Homes Ltd, concludes with the statement that "*...the engineering of such water table control measures is beyond the scope of the present investigation and should be addressed during the planning and design of the site grading and servicing for the development...*".

To satisfy requirements of the Canada Fisheries Act to protect fish habitat, the OMNR, DFO and the landowner must sign a Fish Habitat Compensation Agreement. We have secured agreement from DFO to view this document and to offer our comments before it is signed, but we are concerned that the baseline data from water flow and temperature measurements will not be sufficient to enforce the agreement.

It is our position that the concept plan accepted by the City of Gloucester in June 1992 is sufficiently advanced in detail to allow the assessment of the impact of the proposed development on the wetland ecosystem and the local region. The technical studies produced by the proponent do not adequately assess such impacts and are deficient to the extent that they do not address the objective of maintaining the health of the Leitrim Wetland. Despite our requests early on in the consultation process, the studies fail to include environmental indicators or appropriate targets for protection. However the supporting studies do identify some of the negative environmental impacts of the construction and habitation phases of the project.

The members of the LNG have resolved to support the several requests already made to you, the Minister of the Environment for Ontario, to designate the Leitrim Urban Area project as an undertaking under the Environmental Assessment Act. Under this legislation, you have the authority to attach conditions on any approvals you may give to undertakings designated under the EAA. Furthermore, the members of the LNG believe that a joint hearing of the Ontario Municipal Board and an Environmental Assessment Board is required to adequately review the project in view of its special features, its complex planning history and the political sensitivity of the situation. We formally request that this request be granted. The Provincial Wetlands Policy Statement, gazetted in June of this year, clearly applies to all planning matters for which final approvals have yet to be granted. The cumulative effects of this project and of projects being proposed for adjacent lands must be assessed, along with economic factors. We believe this action is necessary to protect the wetland and therefore the public interest. We thank you for your attention in this matter.

Yours very sincerely, Michael Ross Murphy

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